

ABSTRACT

5 Optical fibers are inserted and bonded in a two dimensional
array of feedthroughs provided by an insert having a top plate,
a bottom plate and a sandwiched spacer plate. Top and bottom
plate feature funnel shaped hole sections that capture the
approaching fiber end during its insertion. The funnel sections
10 terminate in narrow hole sections that tightly hold the inserted
fiber ends. Having top and bottom plate spaced apart provides
for high angular precision of the bonded fiber ends with minimal
fabrication effort of the insert. Optical fibers may be combined
in linear arrays and simultaneously inserted significantly
15 reducing assembly efforts. The insert is attached to a fiber
housing and hermetically sealed within an external housing,
which features a glass plate to provide beam propagation to and
from the fiber ends. An optical gel fills the gap between the
insert's output face and the glass plate.

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